

Work Order ID 163945***163945***

Page 1

Monday, July 10, 2017 12:50:05 PM

Item ID: D4034-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Fwd Upper Rib Assembly
Start Date: 7/31/2017 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 8/2/2017 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: DAS 21 9-89 Date: JUL 12 2017 Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4034	C

100 Weld per dwg A/R S.S. rod Batch: 138058 0.00

100

Large Fab

Memo 1.32

Large Fab

1- Assemble ribs to hoop and weld as per dwg DT9564

2- Weld bushing in rib as per dwg

110

QC9- Inspect visual per QSI004- Fusion Welds 0.00

110

QC

Memo 0.00

Quality Control

120

QC5- Inspect part completeness to step on W/O 0.00

120

QC

Memo 0.08

Quality Control

46 17-08-1(4) 17-08-02 DAS 9 9-89(4) 17-08-02 DAS 9 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval 	
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY					
☐ Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified	☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due	☐ Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter	☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes	☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center	☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence	☐ OTHER : _____		

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Page 2

Monday, July 10, 2017 12:50:05 PM

Item ID: D4034-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
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Start Date: 7/31/2017 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 8/2/2017 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: <i>W004</i>	0.00							
130						<i>41</i>	<i>D.M.L</i>	<i>2017-8-2</i>	
Packaging	Memo	0.04							
Packaging	LOCATION: WA004								
140	QC21- Final Inspection - Work Order Release	0.00				<i>DAS</i>			
140						<i>21</i>			
QC	Memo	0.40				<i>9-89</i>			<i>AUG 18 2017</i>
Quality Control									

DAS
21
9-89

AUG 09 2017

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Misabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process	OTHER :							
Misidentified ☐	☐ Past Due								

Picklist Print

Monday, July 10, 2017 12:50:02 PM

Page 1

Work Order ID: 163945

163945

Parent Item: D4034-043

D4034-043

Parent Item Name: Fwd Upper Rib Assembly

Start Date: 7/31/2017

Required Date: 8/2/2017

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP RevA: new issue DD 09.11.23 verified by:EC IPP Rev:B as
per dwg revA 10.03.15 verified by:EC IPP Rev:C 11.01.19 AS
PER DWG REV.B DD VERF:EC IPP Rev:D 13.03.14 AS PER DWG
REV.pc1 DD VERF:JLM IPP Rev:E 13.06.21 DWG REV.C DD
VERF:JFS

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
✓ D4021-7 Hoop		Manufactured	No			100	Each	0.0000	1	4			
D4021-7													
✓ D4021-9 Bushing		Manufactured	No			100	Each	46.0000	4	16			
D4021-9													
				<u>Location</u>				<u>Loc Qty</u>					
				WA004				46					
					162060			46					
✓ D4034-1 Rib		Manufactured	No			100	Each	24.0000	1	4			
D4034-1													
				<u>Location</u>				<u>Loc Qty</u>					
				WA004				24					
					160511			4					
					161999			20					
✓ D4034-3 Rib		Manufactured	No			100	Each	6.0000	1	4			
D4034-3													
				<u>Location</u>				<u>Loc Qty</u>					
				WA004				6					
					161508			6					

**B 163719 x 4 D.M.L 2017-07-26

** 16 C 17-07-27
B16454 → 2x
B162060 → 19x

**B 160511 x 4 D.M.L 2017-07-26

**B 160508 x 4 D.M.L 2017-07-26

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

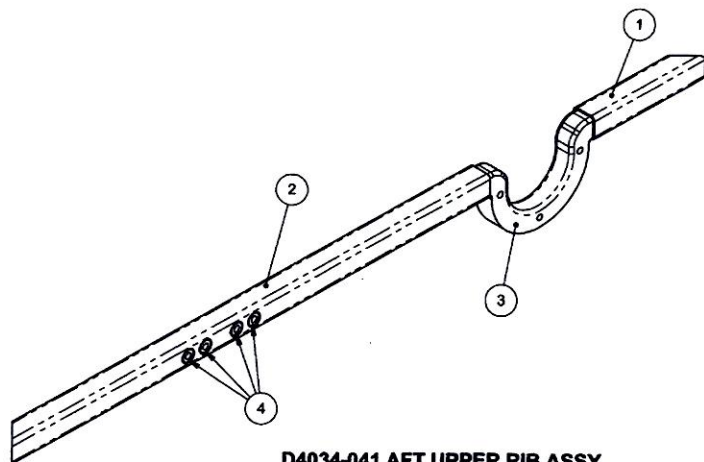
QA Closed: _____ Date: _____

Work Order update only ☐

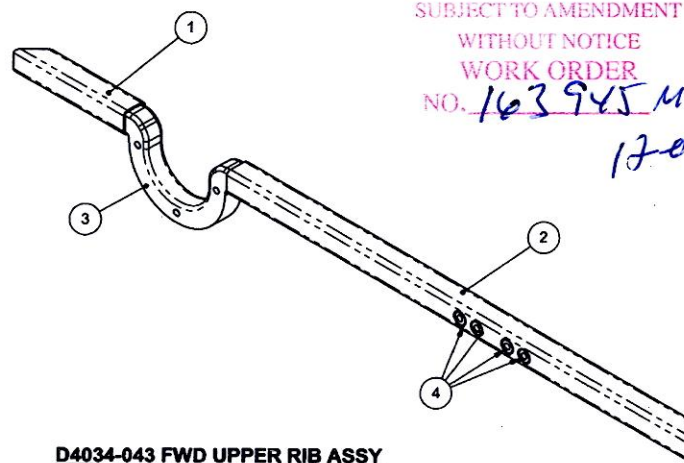
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

ITEM	QTY -041	QTY -043	P/N	DESCRIPTION
	X		D4034-041	AFT UPPER RIB ASSY
		X	D4034-043	FWD UPPER RIB ASSY
1	1	1	D4034-1	RIB
2	1	1	D4034-3	RIB
3	1	1	D4021-7	HOOP
4	4	4	D4021-9	BUSHING

△C



D4034-041 AFT UPPER RIB ASSY

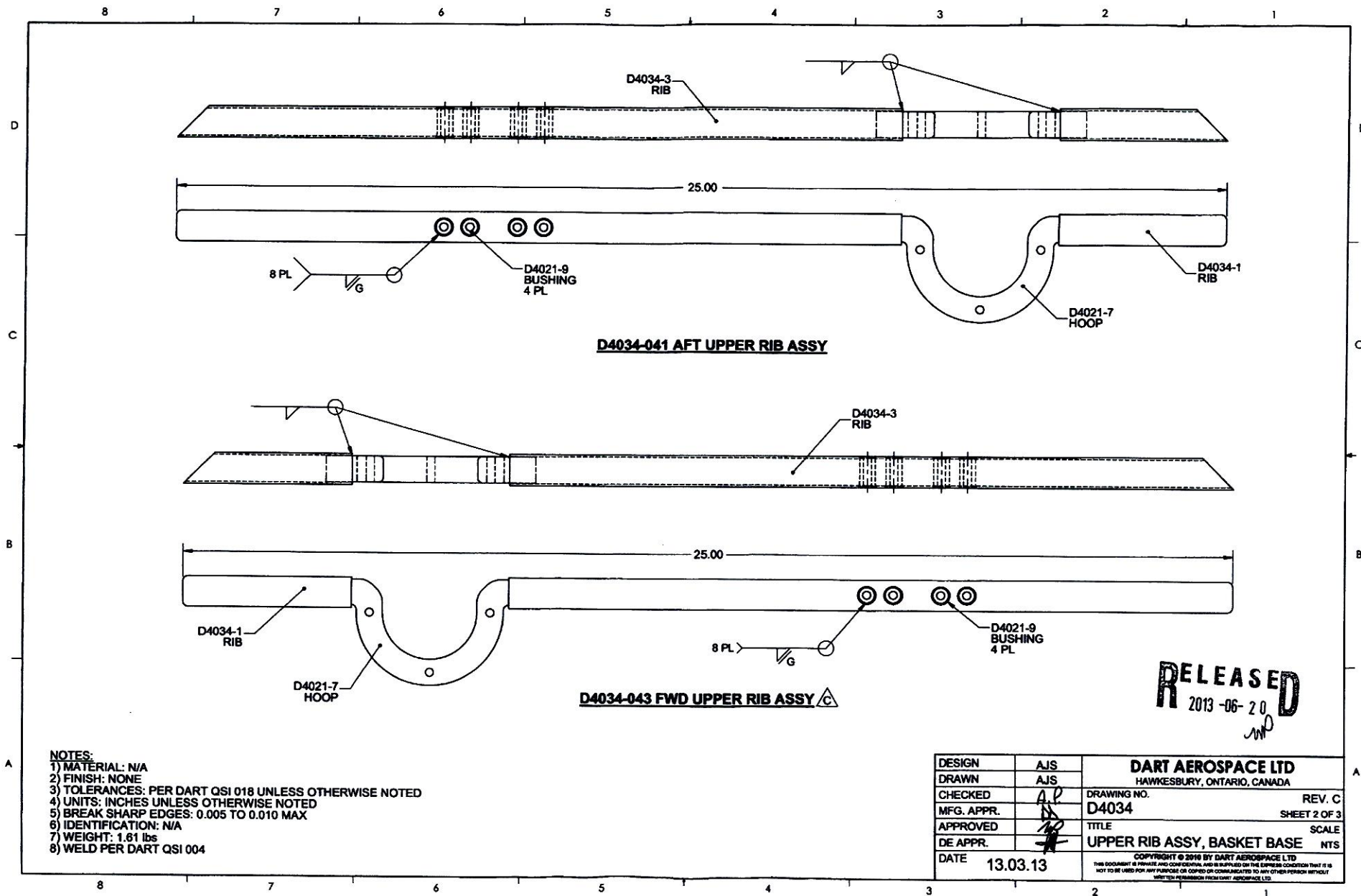


D4034-043 FWD UPPER RIB ASSY

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 163945 MJS
120712

RELEASED
2013-06-20
AM

C	-043 REDESIGNED AS MIRROR IMAGE OF -041. 5 DELETED. D2327-3 DELETED. REASON PROP ARM NO LONGER OFFERED.	AJS	13.03.13
B	ADDITIONAL HOLES ADDED ON D4034-3 RIB	SC	10.12.20
A	NEW ISSUE	AJS	10.03.04
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	A.P.	DRAWING NO.	REV. C
MFG. APPR.	NS	D4034	SHEET 1 OF 3
APPROVED	NS	TITLE	SCALE
DE APPR.	NS	UPPER RIB ASSY, BASKET BASE	NTS
DATE	13.03.13	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



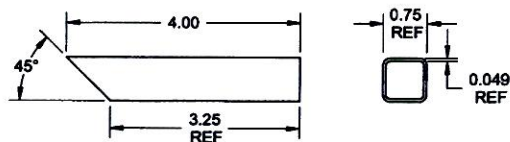
D4034-041 AFT UPPER RIB ASSY

D4034-043 FWD UPPER RIB ASSY

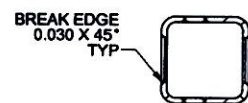
- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: 1.61 lbs
 - 8) WELD PER DART QSI 004

RELEASED
2013-06-20

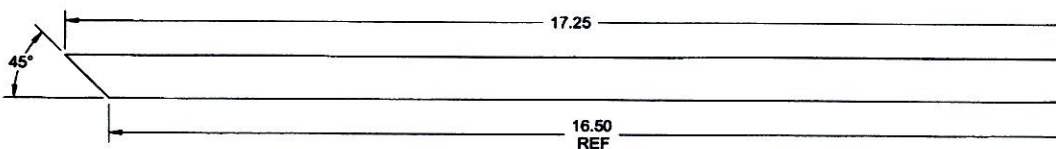
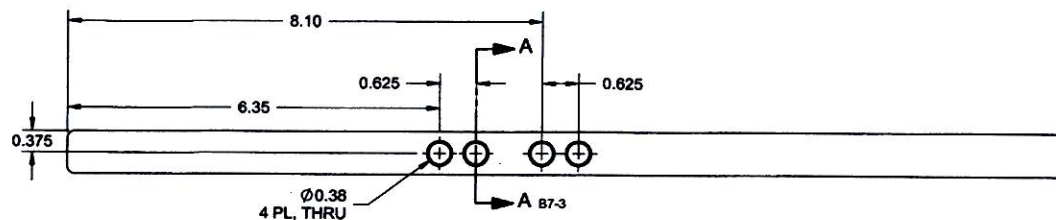
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	AP	DRAWING NO.	REV. C
MFG. APPR.	AS	D4034	SHEET 2 OF 3
APPROVED	AS	TITLE	SCALE
DE APPR.	AS	UPPER RIB ASSY, BASKET BASE	NTS
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D4034-1 RIB



SECTION A-A C3-3



D4034-3 RIB

RELEASED
2013-06-28

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SQUARE TUBE, 0.75 X 0.75 X 0.049 WALL
REF DART SPEC. M304TS0.750W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT -1: 0.13 lbs
-3: 0.62 lbs

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AP	DRAWING NO.	REV. C
MFG. APPR.	DS	D4034	SHEET 3 OF 3
APPROVED	AP	TITLE	SCALE
DE APPR.	H	UPPER RIB ASSY, BASKET BASE NTS	
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